VI. *Addition to Memoir on the Resultant of a System of two Equations.* *By Professor* CAYLEY, *F.R.S.*

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THE elimination tables in the Memoir on the Resultant of a System of two Equations (Phil. Trans. 1857, pp. 703–715), relate to equations of the form $(a, b \ldots \between x, y)^m = 0$, *without* numerical coefficients; but it is, I think, desirable to give the corresponding tables for equations in the form $(a, b, \ldots \between x, y)^m = 0$ *with* numerical coefficients, which is the standard form in quantics. The transformation can of course be effected without difficulty, and the results are as here given. It is easy to see *à priori* that the sum of the numerical coefficients in each table ought to vanish; these sums do in fact vanish, and we have thus a verification as well of the tables of the present Addition as of the tables of the original memoir, by means whereof the present tables were calculated.

Table (2, 2).
Resultant of
$(a, b, c \between x, y)^2$,
$(p, q, r \between x, y)^2$.

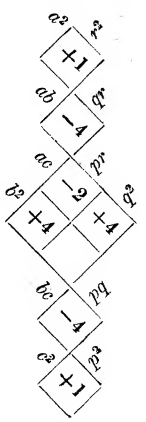


Table (3, 2).
Resultant of
$(a, b, c, d \between x, y)^3$,
$(p, q, r \between x, y)^2$.

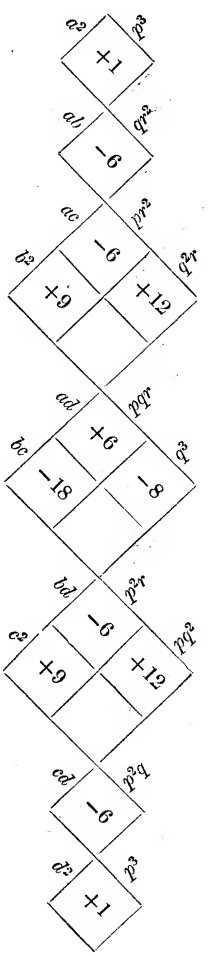


Table (4, 2).

Resultant of

$(a, b, c, d, e \between x, y)^4$,

$(p, q, r \between x, y)^2$.

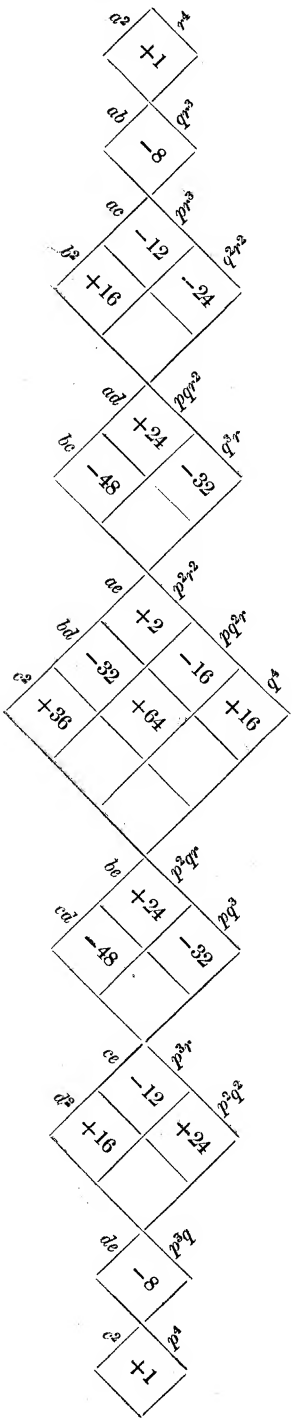
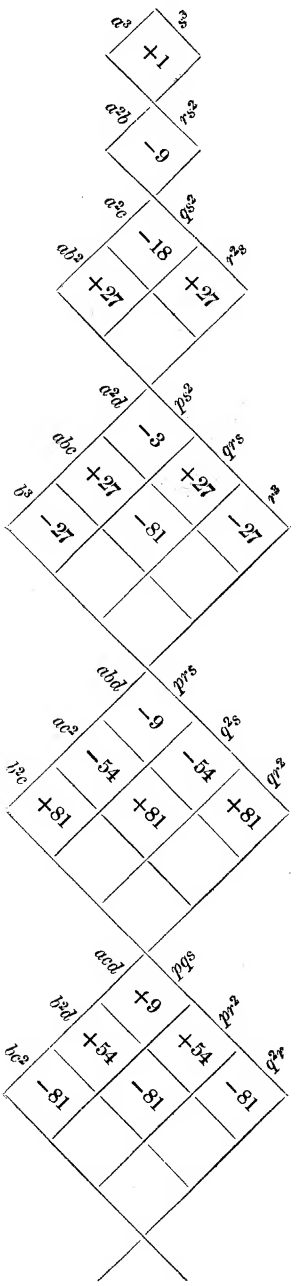


Table (3, 3)*.

Resultant of

$(a, b, c, d \between x, y)^3$

$(p, q, r, s \between x, y)^3$.



* N.B. In the corresponding table of the memoir, there is an error in the signs of the last two terms; they should be

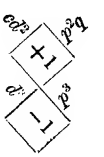


Table (4, 3).

Resultant of

$(a, b, c, d, e \between x, y)^4$,

$(p, q, r, s \between x, y)^3$.

a^3	a^2b	a^2c	ab^2	b^3	a^2d	abc
p^3	r^3	q^3	r^2s^2	r^3s	p^3s	qr^2s
+1	−12	−36	+48	+54	−64	+72
					−12	+108
						−216
						−108

a^2e	abd	ace^2	b^2c	pr^3s^2	q^2s^3	qr^2s	r^4		
+12	−48	−216	+288						
	+18	+324							
	−288								
	+432								
	−108								
	+81								

ade	acd	b^2d	bc^2	pq^3s^2	pr^2s	q^2rs	qr^3		
−60	+72	+384	−432						
+36	+432	−576							
+324	−648								
−324									

ace	b^2e	ad^2	bcd	c^3	p^2s^2	$pqrs$	q^2s	pr^3	q^2r^2
−18	+48	+48	−288	+216					
+216	−432	−432	+864						
−324	0	+432							
−324	+432								
+486									

ade	bce	bd^2	c^2d	p^2rs	pq^2s	pqr^2	q^2r		
−60	+72	+384	−432						
+36	+432	−576							
+324	−648								
−324									

ae^2	bde	c^2e	cd^2	p^2qs	p^2r^2	pq^2r	q^4		
+12	−48	−216	+288						
+18	+324	−288							
−108	+432								
+81									

be^2	cde	d^3	p^3s	p^2qr	p^3				
−12	+72	−64							
+108	−216								
−108									

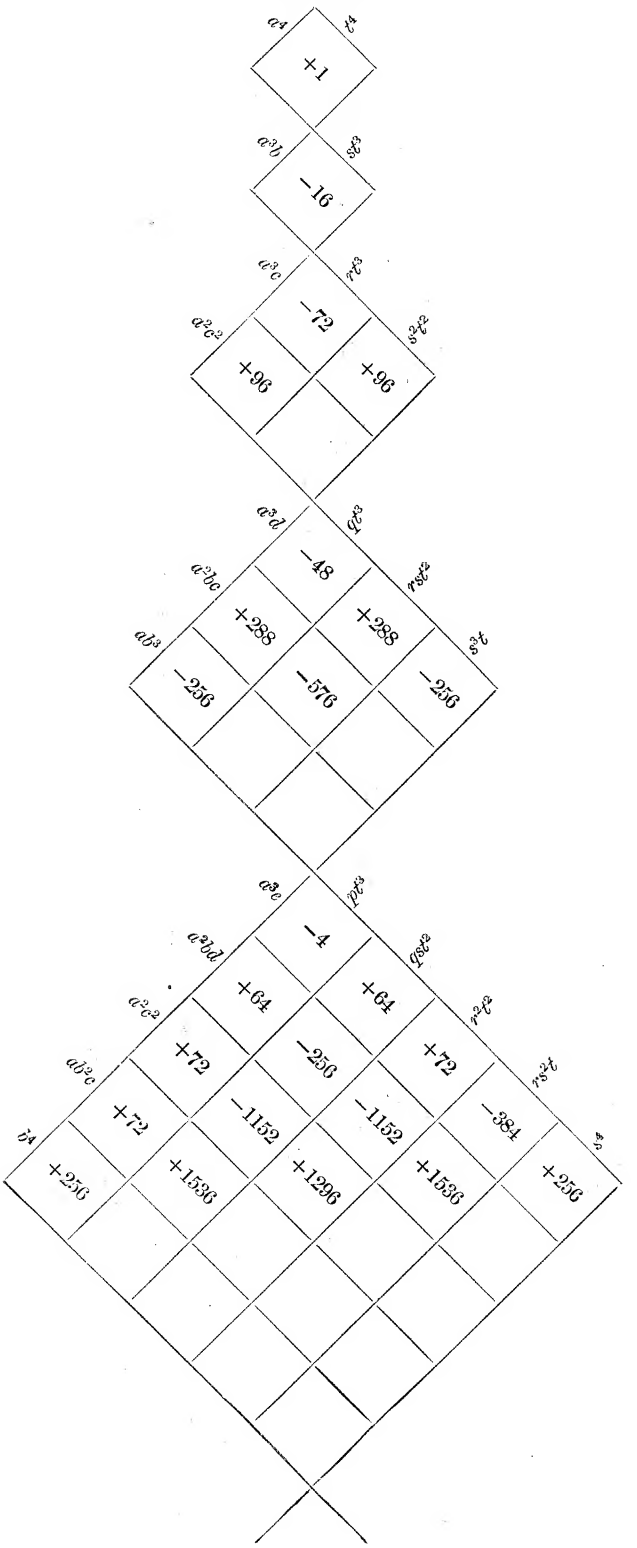
ce^2	de	e^3	p^3r	p^2q^2	p^3q	p^4			
−36	+48								
+54									
−12									
+1									

Table (4, 4).

Resultant of

$(a, b, c, d, e \between x, y)^4$,

$(p, q, r, s, t \between x, y)^4$.



a^2be	a^2cd	ab^2d	abc^2	b^3c		
ps^2	qr^2	qs^2t	r^2st	rs^3		
−16	−480	−480	+256	+576	+256	
	+256	+576	+1728	+3072	+3072	+1728
		−1536	−3456	−4096	−3456	−1536

a^2ce	ab^2e	a^2d^2	$abcd$	b^3d	ac^3	b^2c^2		
pr^2	q^2r	ps^2t	$qrst$	r^2t	s^3	r^2s^2		
+72	−288	+192	+2304	−3072	−2592	+3456		
	+192	+768	−288	−4608	0	−4608	+3456	
		−256	+768	+768	−4608	−4608	+4096	
			+2304	+4608	0	+9216		
				−2592	−3072	+3456		
					+4096			
						+3456		

											a^2de
										pqt^2	+80
									$abce$	+192	+192
								$prst$	+192	−4608	−1280
							b^3e	−768	−4608	+1536	+576
						q^2st	−1280	+4608	+1536	+6912	−768
					abd^2	+576	+1536	+8192	0	+4608	+4608
				qr^2t	+6912	+4608	−9216	−9216	0	−4096	−9216	−3456
			ac^2d	−1280	−9216	−9216						
		ps^3	+576	−9216								
	b^2cd	−768	−9216									
qr^2	+4608											
b^3	+4608											
r^3s	−3456											

											a^2e^2
										pr^2t^2	+6
									$abde$	−128	−128
								$pqst$	−128	+2560	−144
							ac^2e	−144	+2560	0	+384
						qr^2t	+384	0	0	−1536	+384
					b^2ce	+384	−1536	+5184	−1536	−1536	+512
				pr^3s^2	+384	−1536	−6912	−6192	−6912	−8192	−2304
			acd^2	+384	−1536	−6912	0	−6912	−8192	+9216	+1296
		q^2s^2	+512	−1536	−6912	+9216	+9216	+9216	+9216		
	b^2d^2	+512	−8192	+9216	+9216						
qr^3s	−2304	−2304	+9216								
bc^2d	−2304										
r^4	+1296										
c^4	+1296										

	p^2st	$pqrt$	q^3t	pqs^2	pr^2s	q^2rs	qr^3
abe^2	+80	+192	−768	−1280	+576	+4608	−3456
$acde$	+192	−4608	+4608	+1536	+6912	−9216	
b^2de	−1280	+1536	+1536	+8192	−4096		
bce^2	+576	+4608	−9216	−9216			
ad^3	−768	+6912	−9216				
bcd^2	+4608	−4096					
c^3d	−3456						

	p^2rt	pq^2t	p^2s^2	$pqrs$	q^3s	pr^3	q^2r^2
ace^2	+72	−192	−288	+2304	−3072	−2592	+3456
b^2e^2	−288	+768	+768	−4608	+4608	+3456	
ad^2e	+192	−256	−4608	+4608	−9216		
$bcde$	+2304	+768	+4608	−4096			
c^3e	−2592	−4608	−9216				
bd^3	−3072	0					
c^2d^2	+3456	+4096					

ade^2	p^2qt	-16				
bce^2	p^2rs	-480	-480			
bd^2c	pq^2s	$+256$	$+576$	$+256$		
c^2de	pqr^2	$+1728$	$+3072$	$+3072$	$+1728$	
cd^3	q^3r	-1536	-3456	-4096	-3456	-1536

ae^3	p^3t	-4				
bde^2	p^2qs	$+64$	$+64$			
c^2e^2	p^2r	$+72$	-256	$+72$		
cd^2e	pq^2r	-384	-1152	-1152	-384	
d^4	q^4	$+256$	$+1536$	$+1296$	$+1536$	$+256$

be^3	p^3s	-48				
cde^2	p^2qr	$+288$	$+288$			
d^3e	pq^3	-256	-576	-256		

ce^3	p^3r	-72				
d^2e^2	p^2q^2	$+96$	$+96$			

de^3	p^3q	-16				
e^4	p^4	$+1$				